

WHAT IS CLAIMED IS:

1. A solid electrolytic capacitor comprising:

a capacitor element including a porous sintered compact made of a valve action metal having an anode lead and a dielectric, an electrolyte and a cathode layers successively formed on a surface of the porous sintered compact;

an anode terminal connected to the anode lead of said capacitor element;

a cathode terminal connected to the cathode layer; and

a casing material covering said terminals and said capacitor element;

wherein said anode terminal includes a first plate piece having first and second ends, a second plate piece having third and fourth ends, and a third plate piece having fifth and sixth ends, said first, second and third plate pieces being formed of continuous members, said third plate piece having one surface exposed to the exterior of said casing material and forming a mounting surface defined by said the fifth and sixth ends communicated to each other and the other surface opposing the exposed surface, said first plate piece having the first end arranged in proximity to or in butt on said other surface so as to intersect in the shape of letter T with said third plate piece, the second end of said first plate piece being extended and joined to the anode lead, said second end and the fourth end being respectively connected to the third end and the fifth end.
2. A solid electrolytic capacitor as defined in claim 1, wherein said second plate piece is arranged nearer to said cathode layer than said third plate piece.
3. A solid electrolytic capacitor as defined in claim 1, wherein said anode terminal is formed of a single metal plate.

4. A solid electrolytic capacitor as defined in claim 1, wherein said cathode terminal includes a fourth plate piece and a fifth plate piece which have their inner ends respectively connected to an interconnection portion so as to form a step through the interconnection portion and to become parallel to each other, one surface of said fourth plate piece being joined to said cathode layer, while one surface of said fifth plate piece remote from said cathode layer forms a mounting surface exposed to the exterior of said casing material.

5. A solid electrolytic capacitor as defined in claim 4, wherein said fifth plate piece extends in a direction of coming away from said anode terminal with respect to said fourth plate.

6. A solid electrolytic capacitor comprising:

a capacitor element including a porous sintered compact made of a valve action metal having an anode lead exposed to the exterior of one end thereof, and a dielectric, an electrolyte and a cathode layer successively formed on a surface of the porous sintered compact;

an anode terminal connected to the anode lead of said capacitor element;

a cathode terminal connected to the cathode layer; and
a casing material covering said terminals and said capacitor element,

wherein said anode terminal includes:

a first plate piece having a joint with said anode lead as its one end surface and extending from the joint toward a mounting surface in a perpendicular direction;

a second plate piece bent at about 90 degrees at the mounting surface so as to extend toward a cathode; and

a third plate piece formed in such a way that a side of said mounting surface is folded back toward an anode by bending at about 180 degrees;

said third plate piece extending to an end surface of said casing material toward the anode and being perpendicularly cut at the end surface of said casing material so as to define a cut section that forms another end surface of said anode terminal;

the second and third plate pieces being pressure-welded to each other so as to become integral.

7. A solid electrolytic capacitor as defined in claim 6, wherein a resin film is formed on said second and third plate pieces, and said second and third plate pieces are joined to each other through the resin film by the pressure-welding.

8. A method of manufacturing a solid electrolytic capacitor including: a capacitor element containing a porous sintered compact made of a valve metal having an anode lead, and a dielectric, an electrolyte and a cathode layer successively formed on a surface of the porous sintered compact; an anode terminal connected to the anode lead of the capacitor element; a cathode terminal which is connected to the cathode layer; and a casing material covering the terminals and the capacitor element, said method comprising the steps of:

preparing as the anode terminal a series of members in which a first plate piece is continuous to a third plate piece through a second plate piece;

forming the series of members into a shape in which the first and third plate pieces intersect in a shape of letter T in a state where the first plate piece extends to said anode lead; and

forming the second and third plate pieces into a state where one surface of the third plate piece is exposed to the exterior of the casing material as a mounting surface of the solid electrolytic capacitor.

9. A method of manufacturing a solid electrolytic capacitor as defined in claim 8, wherein the second plate piece is arranged nearer to said cathode

layer than said third plate piece.

10. A method of manufacturing a solid electrolytic capacitor as defined in claim 8, wherein said anode terminal is formed of a single metal plate.

11. A method of manufacturing a solid electrolytic capacitor as defined in claim 8, wherein said cathode terminal is formed of a fourth plate piece and a fifth plate piece which have inner ends respectively connected to an interconnection portion so as to form a step through the interconnection portion and to become parallel to each other, one surface of the fourth plate piece being joined to said cathode layer, while one surface of the fifth plate piece remote from said cathode layer is set as a mounting surface exposed to the exterior of said casing material.

12. A method of manufacturing a solid electrolytic capacitor as defined in claim 11, wherein said fifth plate piece is formed so as to extend in a direction of coming away from said anode terminal with respect to said fourth plate.

13. A method of manufacturing a solid electrolytic capacitor including: a capacitor element containing a porous sintered compact made of a valve action metal having an anode lead exposed to the exterior of one end thereof, and a dielectric, an electrolyte and a cathode layer successively formed on a surface of the porous sintered compact; an anode terminal connected to the anode lead of said capacitor element; a cathode terminal connected to the cathode layer; and a casing material covering said terminals and said capacitor element, said method comprising the steps of:

forming as said anode terminal a first plate piece having a joint with said anode lead as its one end surface and extending from the joint toward a mounting surface in a perpendicular direction, a second plate piece being bent at about 90 degrees at the mounting surface so as to extend toward a cathode, and a third plate piece formed in such a way that a side of said mounting surface is folded back toward an anode by bending at about 180 degree;

extending said third plate piece to an end surface of said casing material toward the anode;

cutting perpendicularly at the end surface of said casing material so as to define a cut section that forms another end surface of said anode terminal; and

pressure-welding the second and third plate pieces to each other so as to become integral.

14. A method of manufacturing a solid electrolytic capacitor as defined in claim 13, wherein a resin film is formed on said second and third plate pieces, said second and third plate pieces being joined to each other through the resin film by the pressure-welding.